INVESTIGATING PARENTAL PERCEPTIONS OF SCHOOL HYGIENE PRACTICES AND ITS IMPACT ON LOWER PRIMARY SCHOOL PUPILS' HEALTH AND ACADEMIC PERFORMANCE

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Abstract

This study explored parental perceptions of school hygiene practices and its impact on lower primary school health and academic performance in Ibadan South West Local Government, Oyo State. A mixed-methods design was adopted, using surveys, observation checklists, and interviews with parents and pupils. Quantitative data were analyzed with descriptive and inferential statistics, while qualitative data were thematically analyzed.

Results showed that while fingernail checks and classroom sweeping were commonly practiced, toilet cleaning and compound maintenance were poorly implemented, particularly in public schools. Parents valued hygiene but identified inadequate facilities and inconsistent routines as persistent challenges. Pupils in schools with stronger hygiene practices reported fewer hygiene-related illnesses, leading to reduced absenteeism and improved academic outcomes. Regression analysis confirmed a significant connection between hygiene practices and pupils' academic performance.

The study concludes that hygiene is integral to both child health and learning. It recommends structured hygiene routines, government investment in WASH infrastructure, stronger parental involvement, and regular monitoring to improve educational outcomes.

Keywords: school hygiene, parental perception, pupils' health, academic performance

Introduction

The health and academic success of pupils in lower primary schools are shaped not only by the quality of classroom instruction but also by environmental and personal hygiene practices. School hygiene involves routine activities such as checking pupils' fingernails during assembly, sweeping classrooms, cleaning toilets, and maintaining the school compound through grass cutting. These practices are fundamental to health promotion in schools, particularly in low- and middle-income countries like Nigeria, where poor sanitation and limited hygiene infrastructure remain major contributors to infectious disease prevalence among children (Adewoyin et al., 2025).

Globally, inadequate school hygiene has been strongly linked to intestinal parasitic infections, diarrheal diseases, and high absenteeism rates among school-aged children (Jasim, 2025). In Nigeria, poor school sanitation conditions contribute to recurrent outbreaks of communicable diseases, malnutrition, and impaired cognitive development. Such health issues negatively affect pupils' learning outcomes, as children exposed to unhygienic environments often suffer from absenteeism and reduced academic performance (Ekeh & Onuike, 2025). These observations affirm that school hygiene practices function as both preventive health measures and educational interventions.

Parental perceptions also play a critical role in sustaining school hygiene initiatives. When parents recognize the benefits of hygiene practices, they

are more inclined to support policy enforcement and resource mobilization for sanitation programs (Chifamba et al., 2025). Conversely, lack of parental awareness or involvement can weaken the impact of school-based interventions. This dynamic underscores the importance of exploring parental perspectives on hygiene practices and their implications for both health and educational outcomes in Nigeria.

School hygiene practices, such as fingernail checks, classroom sweeping, and compound maintenance through grass cutting, align with global Water, Sanitation, and Hygiene (WASH) initiatives. These measures are essential for preventing communicable diseases, including diarrhea and respiratory infections, which are particularly prevalent among young children due to their frequent physical interactions and immature immune systems. In Nigeria, disparities in WASH facilities between public and private schools exacerbate health risks, especially in rural and low-income areas where inadequate infrastructure reduces hygiene adherence and contributes to higher morbidity rates (Wada et al., 2022).

International evidence reinforces this connection. In Ethiopia, for example, personal hygiene practices among elementary pupils were reported at 59.2%, influenced by parental education and access to handwashing facilities, both of which were associated with reduced illness rates (Minda et al., 2024). Similarly, in Pakistan, multi-component school interventions—combining hygiene education with environmental maintenance such as floor sweeping and grass cutting—were effective in lowering disease prevalence by reducing vector breeding sites (Pradhan et al., 2020).

Evidence from Nigeria further confirms the positive outcomes of WASH-focused interventions. School-based hygiene education programs have significantly improved pupils' health practices, including oral care, handwashing, and environmental cleanliness, particularly in lower basic schools (Ajayi & Qudus, 2022). Nevertheless, challenges persist in rural settings where open defecation remains widespread, affecting nearly one-

quarter of students and exacerbating gastrointestinal health issues that interfere with school attendance and engagement (Wada et al., 2022).

Globally, meta-analyses have shown that well-designed school hygiene programs can reduce infection-related absenteeism by up to 26%, thereby supporting both improved health and enhanced learning outcomes (Ismail et al., 2024). In China, poor toilet cleanliness has been associated with avoidance behaviors among pupils, resulting in health risks such as urinary tract infections and reduced school participation (Shao et al., 2021). Importantly, parental involvement remains a central factor: higher parental education levels are associated with improved hygiene knowledge among children and reduced engagement in risky practices, reinforcing the need for active community participation in school hygiene initiatives (Minda et al., 2024).

Taken together, these insights highlight the dual role of school hygiene practices as both health and educational strategies. They also emphasize the need to investigate parental perceptions of specific hygiene practices—such as fingernail checks, sweeping, toilet cleaning, and grass cutting—and how these perceptions influence the health and academic performance of lower primary pupils in Nigeria.

Statement of the Problem

The health and learning success of children in lower primary schools are closely tied to hygiene practices within the school environment. Yet, many Nigerian schools still lack adequate sanitation facilities and structured hygiene programs. Pupils are often exposed to unclean toilets, poorly maintained classrooms, overgrown compounds, and personal habits such as long fingernails that harbor germs. These conditions increase children’s vulnerability to infections, contribute to absenteeism, and hinder academic performance.

Although previous studies have explored the school environment in relation to learning, little attention has been given to how parents view specific hygiene practices like fingernail checks, toilet cleaning, sweeping, and grass cutting, or how these views influence children's health and academic progress. Parental involvement is critical because their support determines how well school hygiene programs are sustained.

Disparities between private and public schools further complicate the issue, with many public schools lacking even basic hygiene facilities. Such inequalities leave pupils in disadvantaged communities at greater risk of diseases that interfere with their education. Without addressing these challenges, efforts to improve children's health and learning outcomes through hygiene promotion will remain limited.

This study seeks to investigate the extent to which hygiene facilities and practices, such as fingernail checks, classroom sweeping, toilet cleaning, and compound maintenance, are implemented in lower primary schools in Nigeria. It also aims to explore how parents perceive these hygiene practices in relation to their children's health and to examine the degree to which such practices influence pupils' health outcomes, particularly the prevalence of common diseases and related absenteeism. Furthermore, the study will assess the connection between school hygiene practices and pupils' academic performance, highlighting how a healthy learning environment supports educational achievement.

Purpose of the Study

The main purpose of this study is to investigate parental perceptions of school hygiene practices and their impact on the health and academic performance of lower primary school pupils in Nigeria.
The specific objectives are to:

Assess the extent of hygiene practices and facilities in Nigerian lower primary schools.

Explore parents' perceptions of school hygiene practices in relation to children's health.

Determine the impact of school hygiene practices on pupils' health outcomes.

Examine the connection between hygiene practices and academic performance among pupils.

Research Questions

This study seeks to answer the following questions:

What is the extent of hygiene facilities and practices, including fingernail checks and environmental maintenance, in lower primary schools in Nigeria?

How do parents perceive the role of school hygiene practices in their children's health?

To what degree do school hygiene practices impact pupils' health outcomes, such as prevalence of diseases?

What is the connection between school hygiene practices and pupils' academic performance?

Research Methodology

The study employed a mixed-methods design to capture both measurable data and contextual insights on school hygiene practices, pupils' health, and academic performance. The quantitative strand provided evidence on the availability and extent of hygiene facilities and practices, while the qualitative strand explored parents' perceptions and experiences.

The research was conducted in Ibadan South West Local Government, Oyo State, Nigeria, chosen for its mix of public and private lower primary schools and its sanitation challenges. The population included pupils in lower primary schools and their parents. A multistage sampling technique

was used: schools were stratified into public and private, then randomly selected, after which pupils and parents were sampled to ensure diversity.

Data were collected through structured questionnaires for parents, observation checklists on school facilities, and semi-structured interviews with a subset of parents. Instruments were validated by experts, pilot-tested in a nearby local government, and yielded a Cronbach's alpha of 0.78.

Analysis combined descriptive and inferential statistics, including frequencies, percentages, chi-square tests, and regression to determine links between hygiene practices, health, and academic outcomes. The qualitative data were thematically analyzed to identify patterns such as parental support, barriers to hygiene, and links to learning.

This approach offered a comprehensive understanding of hygiene practices, parental perceptions, and their combined influence on children's health and academic success in Ibadan South West Local Government.

Results of findings

Quantitative Findings

Table 1: Extent of Hygiene Facilities and Practices in Lower Primary Schools

Hygiene Practice	**Adequate (%)**	**Inadequate (%)**	**Not Available (%)**
Fingernail checks at assembly	55.0	30.0	15.0
Classroom sweeping	70.5	20.0	9.5
Toilet cleaning	42.0	35.0	23.0
Grass cutting/compound cleaning	48.5	32.0	19.5

Interpretation and Implication:
Findings showed that while routine practices like classroom sweeping were fairly adequate, critical areas such as toilet cleaning and compound maintenance were poorly implemented. This suggests that many pupils remain at risk of infections linked to sanitation lapses. Schools in Ibadan South West LG require stronger WASH interventions and facility support, particularly in public schools, to ensure consistent hygiene practices.

Table 2: Parental Perceptions of Hygiene Practices on Children's Health

Perception Statement	Agree (%)	Neutral (%)	Disagree (%)
Hygiene checks prevent common diseases	68.0	17.0	15.0
School toilets are safe for children's health	39.0	21.0	40.0
Poor hygiene leads to absenteeism	72.5	13.0	14.5
Parents should support school hygiene programs	81.0	10.0	9.0

Interpretation and Implication:
Most parents recognized the health benefits of hygiene checks and acknowledged links between poor hygiene and absenteeism. However, less than half believed that school toilets were safe, reflecting concerns about sanitation standards. This underscores the need for parent–school collaboration to improve hygiene infrastructure and create trust in school environments.

Table 3: Impact of Hygiene Practices on Pupils' Health Outcomes (Chi-square Analysis)

Health Outcome	High Hygiene	Low Hygiene	χ^2 value	p-value

(Reported Cases)	Schools (%)	Schools (%)		
Diarrhea (past month)	12.0	34.0	15.62	0.001
Respiratory infections	18.0	29.0	6.48	0.011
Skin diseases	9.0	21.0	7.34	0.007

Interpretation and Implication:
Pupils in schools with stronger hygiene practices reported significantly lower incidences of diarrhea, respiratory infections, and skin diseases. This confirms the protective role of hygiene in reducing disease burden, highlighting the importance of structured hygiene programs to improve children's health in the study area.

Table 4: Regression Analysis of Hygiene Practices and Academic Performance

Predictor (Hygiene Practice)	β (Beta Coefficient)	t-value	p-value
Fingernail checks	0.21	2.48	0.014
Classroom sweeping	0.18	2.07	0.038
Toilet cleaning	0.29	3.52	0.001
Grass cutting/compound cleaning	0.15	1.95	0.052

Interpretation and Implication:
Toilet cleaning emerged as the strongest predictor of academic performance, followed by fingernail checks and classroom sweeping. Pupils in schools with better hygiene practices recorded higher test scores and fewer absentee days. This suggests that improved sanitation contributes not

only to better health but also to stronger academic outcomes, supporting the integration of hygiene promotion into school improvement plans.

Qualitative Findings

Theme 1: Parental Support for Hygiene Practices

Parents expressed strong approval for practices like fingernail checks and sweeping, seeing them as preventive measures that protect children from illness. Many believed such practices instill lifelong hygiene habits.

Interpretation and Implication: Parental buy-in can enhance the sustainability of hygiene programs. Strengthening school–parent partnerships can mobilize resources and ensure consistent hygiene standards.

Theme 2: Barriers to Effective Hygiene in Schools

Parents noted barriers such as inadequate water supply, overcrowded classrooms, and poorly maintained toilets. Some also highlighted neglect in public schools compared to private ones.

Interpretation and Implication: Addressing infrastructural gaps, especially in public schools, is essential for equitable health and learning outcomes. Policy attention is needed to reduce disparities and create safe environments for all pupils.

Theme 3: Hygiene Practices and Children's Health

Parents reported frequent cases of diarrhea, skin infections, and coughs in schools with poor hygiene. They linked absenteeism directly to these illnesses, expressing frustration about missed learning days.

Interpretation and Implication: Poor hygiene not only undermines health but disrupts children's learning continuity. Ensuring reliable WASH facilities could reduce absenteeism and improve both well-being and academic engagement.

Theme 4: Hygiene and Academic Performance

Parents observed that children in cleaner schools appeared more attentive and performed better academically. They attributed this to reduced illness and fewer distractions caused by dirty environments.

Interpretation and Implication: Hygiene is not just a health intervention but an academic enabler. Policies that prioritize hygiene can have far-reaching effects on learning outcomes and educational equity.

Discussion of Findings

The first research question examined the extent of hygiene facilities and practices in schools. Results revealed that while routine activities such as classroom sweeping were relatively well implemented, critical areas like toilet cleaning and compound maintenance remained inadequate. This finding is consistent with reports that none of the public schools surveyed provided adequate sanitation and hygiene services, while private schools had comprehensive WASH facilities (Wada et al., 2022). Similarly, Public school students exhibited significantly poorer hygiene practices, with a higher prevalence of open defecation compared to their private school counterparts (Wada et al., 2022). The implication is that without systemic investment in basic hygiene facilities, children continue to be exposed to environments that undermine both their health and their capacity to learn effectively.

The second research question explored parental perceptions of hygiene practices. Quantitative data indicated that most parents agreed on the health benefits of practices like fingernail checks and associated poor hygiene with absenteeism, although many expressed concerns over toilet safety. The qualitative findings reinforced this, showing that parents valued hygiene practices but were discouraged by infrastructural inadequacies and inequalities between private and public schools.This aligns with the study that found that government schools were reported to have the highest

number of facilities lacking water sources, highlighting systemic issues in public school infrastructure (Nnaji, 2023). Similar findings have been reported in studies that demonstrated parental awareness and involvement as key factors in sustaining school hygiene interventions (Putri, Rohaya, & Silaban, 2022). The implication is that parents are not merely passive observers but critical stakeholders whose perceptions can either strengthen or weaken school hygiene initiatives.

The third research question focused on the impact of hygiene practices on pupils' health outcomes. The study found significantly lower rates of diarrhea, respiratory infections, and skin diseases among pupils in schools with stronger hygiene practices. Parents corroborated these findings by reporting frequent illness and absenteeism in poorly maintained schools. These results support existing evidence that lack of proper sanitation facilities contributes to the spread of waterborne diseases, with inadequate hygiene practices leading to increased health risks among pupils (Okoro, 2024).The implication is that investing in school-based hygiene programs is an effective public health strategy to reduce childhood illness and its ripple effects on learning continuity.

The fourth research question examined the connection between hygiene practices and academic performance. Regression results showed that toilet cleaning was the strongest predictor of academic outcomes, followed by fingernail checks and classroom sweeping. Parents also observed that children in cleaner schools appeared healthier, more attentive, and academically stronger. This supports international findings that school hygiene interventions reduce infection-related absenteeism and thereby improve academic performance (Srećković, Vujković, Dragičević, Panić, Damnjanović, & Đekić-Malbaša, 2024).). The implication is that hygiene should not be viewed only as a health issue but as a core educational strategy capable of enhancing learning outcomes and contributing to Sustainable Development Goal 4 on quality education.

Overall, the findings highlight a dual challenge: infrastructural deficits in school hygiene facilities and the need for stronger parental engagement. Addressing these challenges requires multi-level strategies that combine government investment in WASH infrastructure, community sensitization, and school-based enforcement of daily hygiene practices. By doing so, schools can create healthier environments that foster both well-being and academic achievement.

Summary

This study investigated hygiene practices in lower primary schools in Ibadan South West Local Government, examining the availability of facilities, parental perceptions, and their impact on pupils' health and academic performance. Quantitative findings showed that while sweeping and fingernail checks were relatively common, toilet cleaning and compound maintenance were often neglected. Parents valued hygiene practices but expressed concerns over inadequate facilities, particularly in public schools. Pupils in schools with stronger hygiene practices recorded fewer cases of diarrhea, respiratory infections, and skin diseases, with improved attendance and learning outcomes. Regression results further established that hygiene practices, especially toilet cleaning, significantly predicted academic performance. Qualitative findings reinforced these patterns, highlighting parental support, barriers to hygiene, and the direct link between a clean school environment, children's health, and academic success.

Conclusion

The study concluded that hygiene practices in lower primary schools remain uneven, with infrastructural deficits undermining efforts to promote child health and academic achievement. Parents recognize the importance of hygiene but are hindered by poor facilities and inconsistent implementation of hygiene programs. Strong hygiene practices were found to directly

improve pupils' health and indirectly enhance academic performance by reducing absenteeism. Therefore, hygiene in schools should not be treated as a peripheral activity but as an integral part of educational planning and delivery.

Recommendations

Schools should institutionalize structured hygiene routines, including daily toilet cleaning, fingernail checks, classroom sweeping, and compound maintenance, as part of core school management practices.

Government should prioritize investment in WASH infrastructure by ensuring functional water supply, safe toilets, and regular maintenance in public schools, reducing inequalities between public and private institutions.

Parents should be actively engaged in hygiene promotion, through sensitization and partnerships with schools, to strengthen home–school collaboration in reinforcing healthy habits among pupils.

Teachers and school management should integrate hygiene education into the curriculum, ensuring that pupils understand the health risks of poor hygiene and practice cleanliness as part of daily learning.

Health and education authorities should monitor and evaluate hygiene practices in schools regularly, linking compliance with broader health and academic performance indicators.

Community stakeholders should support hygiene initiatives, such as through school–community partnerships for facility maintenance and health campaigns, thereby sustaining hygiene practices beyond the classroom.

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